REMARKS

This is intended as a full and complete response to the Office Action dated October 4, 2004, having a shortened statutory period for response set to expire on January 4, 2005. A petition for a one-month extension of time is included with this response. Please reconsider the claims pending in the application for reasons discussed below.

I. Rejection of claims under 35 USC § 112

Claims 14, 15, 17, and 18 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 14 and 17 have been amended to address the rejection. Withdrawal of the rejection is respectfully requested.

II. Rejection of claims under 35 USC § 102

A.   Claims 1, 12, 19, 20, and 21 – Bergen

Claims 1, 12, 19, 20, and 21 stand rejected under 35 USC § 102(b) as being anticipated by Bergen et al. (WO 98/21688) (Bergen). Applicants respectfully traverse the rejection.

Bergen discloses a method and apparatus for representing, storing, and accessing video information. The video information is represented in a manner such that indexing of the video information is facilitated.

The Examiner's attention is directed to the fact that Bergen fails to disclose tracking the identified common attributes through the plurality of processed video segments and storing processed segments of the video sequences, where the stored processed segments comprise video segments having the tracked identified common attributes, as recited in claim 1 or tracking the identified common attributes through the plurality of video clips and storing said video clips in said database such that the stored video clips comprise video clips having the tracked identified common attributes, as recited in claim 12. Specifically Applicants' claims 1 and 12 positively recite:

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1.   Apparatus for processing video comprising:
     a segmenter for segmenting video sequences into a plurality of video segments;
     a video processor for processing the video segments of the video sequences, identifying common attributes between video segments, and <u>tracking the identified common attributes through the plurality of processed video segments</u>; and
     a database for <u>storing processed segments of the video sequences, where the stored processed segments comprise video segments having the tracked identified common attributes</u>. (emphasis added)

12.   A method of image processing comprising:
     segmenting a video sequence into a plurality of video clips;
     processing said video clips of the video sequence, identifying common attributes between video clips, and <u>tracking the identified common attributes through the plurality of video clips</u>;
     <u>storing said video clips in said database such that the stored video clips comprise video clips having the tracked identified common attributes</u>; and
     indexing said stored video. (emphasis added)

Applicants' invention is capable of identifying attributes, e.g., objects, in processed video segments. Once these attributes are identified, the attributes can be tracked through a plurality of processed video segments. For example, a user can "click on" a portion of a scene and the system would associate that portion of the scene with an object. In one embodiment, the user may "click on" a person's face, and the authoring tool could then retrieve all video segments containing a similar face in the video. It is typically difficult to match a face when the face is viewed from two different viewpoints. However it is much simpler to track a face as it changes viewpoints. Thus, the invention is capable of tracking selected faces through one or more scenes. The locations where similar faces in the video have been detected are then tracked using a tracker that is not necessarily specific to tracking faces. This means that the tracker will function if the person in the scene turns away or changes orientation.

In contrast, Bergen discloses *identifying* actors and objects within a scene but does <u>not</u> teach or suggest *tracking* actors or objects through more than one scene. The Examiner cites support for tracking in the Bergen reference at page 16, lines 6-14. The passage referred to by the Examiner reads as follows:

     Inter-scene or inter-segment (i.e., scene-to-scene or segment-to-segment) attributes may also be calculated to enable grouping or associating scenes or

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segments sharing one or more attributes. For example, two segments sharing, e.g., very similar background textures may comprise temporally shifted versions of the same scene. For example, a particular camera angle generates a scene having similar textural features over time (e.g., a top-down view of a football game). <u>A request for all scenes sharing the common textural feature may be satisfied by retrieving the video images associated with scenes meeting the parameters of the textural query.</u> (emphasis added)

The above passage does not teach, disclose, or suggest a tracking step as recited by claims 1 and 12. Bergen discloses, in the above passage, that scenes sharing a common feature may be retrieved by the use of a query function. This is not what is taught by Applicants. As recited in Applicants' claims, video segments or video clips comprising the tracked identified common attributes may be stored, e.g., in a database. Thus, Bergen fails to disclose identifying common attributes, tracking those common attributes through a plurality of video segments or video clips, and storing segments or clips comprising the tracked identified common attributes.

Therefore, the Applicants submit that claims 1 and 12 as they now stand, fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder. Claims 19, 20, and 21 are patentable at least by virtue of depending from their respective base claim. Withdrawal of the rejection is respectfully requested.

B.   Claims 1, 10-12, 22, and 23 – Courtney

Claims 1, 10-12, 22, and 23 stand rejected under 35 USC § 102(e) as being anticipated by Courtney (U.S. Patent No. 5,969,755, issued October 19, 1999). Applicants respectfully traverse the rejection.

Courtney discloses a method for providing automatic content-based video indexing from object motion. Moving objects are detected in a video sequence using a motion segmentor. Segmented video objects are recorded and tracked through successive frames. (Courtney, col. 2, line 66 – col. 3, line 2) The system stores the output of the vision subsystem – the video data, motion segmentation, and meta-information – in the database for retrieval through the user interface. (Courtney, col. 5, lines 4-6) [T]he user may specify queries on a video sequence based upon spatial-temporal, event-based, and object-based parameters. (Courtney, col. 5, lines 9-11)

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The Examiner's attention is directed to the fact that Courtney fails to disclose storing processed segments of the video sequences, where the stored processed segments comprise video segments having the tracked identified common attributes, as recited in claim 1 or storing said video clips in said database such that the stored video clips comprise video clips having the tracked identified common attributes, as recited in claim 12.

In contrast, Courtney discloses that a user may query a video sequence based on certain parameters. Courtney does not store video segments or video clips that comprise the tracked identified common attributes as claimed. Courtney, only allows the retrieval of scenes by using a query function. Thus, Courtney fails to disclose identifying common attributes, tracking those common attributes through a plurality of video segments or video clips, and storing segments or clips comprising the tracked identified common attributes.

Therefore, the Applicants submit that claims 1 and 12 as they now stand, fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder. Claims 10, 11, 22, and 23 are patentable at least by virtue of depending from their respective base claim. Withdrawal of the rejection is respectfully requested.

III. Rejection of claims under 35 USC § 103

A. Claims 2-4 and 16-18

Claims 2-4 and 16-18 stand rejected under 35 USC § 103(a) as being obvious over Bergen in view of Brodersen et al. (U.S. Patent No. 6,453,459, issued September 17, 2003) (Brodersen). Applicants respectfully disagree.

As stated previously in section II. of this response, Bergen fails to disclose tracking the identified common attributes through the plurality of processed video segments or tracking the identified common attributes through the plurality of video clips, as positively recited by the Applicants in claims 1 and 12. Brodersen discloses a DVD menu authoring method for automatically performing low level DVD configuration functions. Specifically, the method allows authoring of a DVD title and recalling

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authoring information. The method constructs a skeleton form of a programming chain to provide the user with a GUI.

Brodersen fails to cure the deficiencies of Bergen. Neither of the references cited by the Examiner discloses <u>tracking the identified common attributes through the plurality of processed video segments</u> or <u>tracking the identified common attributes through the plurality of video clips</u>. Thus, the Examiner has failed to present a prima facie case of obviousness in combining Bergen with Brodersen to arrive at the claimed invention of Applicants' claims 2-4 and 16-18. Therefore, the Applicants submit that claims 2-4 and 16-18 as they now stand, fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Withdrawal of the rejection is respectfully requested.

B. Claims 5-9 and 13-15

Claims 5-9 and 13-15 stand rejected under 35 USC § 103(a) as being obvious over Bergen in view of Kenner et al. (U.S. Patent No. 5,956,716, issued September 21, 1999) (Kenner). Applicants respectfully disagree.

As stated previously in section II. of this response, Bergen fails to disclose <u>tracking the identified common attributes through the plurality of processed video segments</u> or <u>tracking the identified common attributes through the plurality of video clips</u>, as positively recited by the Applicants in claims 1 and 12. Kenner discloses a video clip storage and retrieval system whereby video clips, stored locally and/or at a more remote location, can be requested and retrieved by a user at the user's multimedia terminal. The user may then view, copy, or print the video clip as desired. (see Kenner, Abstract)

Kenner fails to cure the deficiencies of Bergen. Neither of the references cited by the Examiner discloses <u>tracking the identified common attributes through the plurality of processed video segments</u> or <u>tracking the identified common attributes through the plurality of video clips</u>. Thus, the Examiner has failed to present a prima facie case of obviousness in combining Bergen with Kenner to arrive at the claimed invention of Applicants' claims 5-9 and 13-15. Therefore, the Applicants submit that claims 5-9 and

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13-15 as they now stand, fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Withdrawal of the rejection is respectfully requested.

IV. Allowable subject matter

Applicants thank the Examiner for allowing claims 24, 25, and 27. Claim 26 is allowable at least for depending from independent claim 25 as presented above.

CONCLUSION

Thus, the Applicants submit that all of these claims now fully satisfy the requirements of 35 U.S.C. §102 and 35 U.S.C. §103. Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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Date

Kin-Wah Tong, Attorney
Reg. No. 39,400
(732) 530-9404
Moser, Patterson & Sheridan, LLP
595 Shrewsbury Avenue
Shrewsbury, New Jersey 07702

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